

# Recombinant Human TGFBR1 Protein (T200-M503), His tagged

Cat. No. TGFBR1-1292H Lot. No. (See product label)

## SPECIFICATION

<b>Product Overview</b>	Recombinant Human 8His-TEV-TGFBR1(T200-M503 end) Protein was expressed in Insect cell.
<b>Species</b>	Human
<b>Source</b>	Insect Cells
<b>ProteinLength</b>	T200-M503
<b>Description</b>	<p>Transmembrane serine/threonine kinase forming with the TGF-beta type II serine/threonine kinase receptor, TGFBR2, the non-promiscuous receptor for the TGF-beta cytokines TGFB1, TGFB2 and TGFB3. Transduces the TGFB1, TGFB2 and TGFB3 signal from the cell surface to the cytoplasm and is thus regulating a plethora of physiological and pathological processes including cell cycle arrest in epithelial and hematopoietic cells, control of mesenchymal cell proliferation and differentiation, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. The formation of the receptor complex composed of 2 TGFBR1 and 2 TGFBR2 molecules symmetrically bound to the cytokine dimer results in the phosphorylation and the activation of TGFBR1 by the constitutively active TGFBR2. Activated TGFBR1 phosphorylates SMAD2 which dissociates from the receptor and interacts with SMAD4. The SMAD2-SMAD4 complex is subsequently translocated to the nucleus where it modulates the transcription of the TGF-beta-regulated genes. This constitutes the canonical SMAD-dependent TGF-beta signaling cascade. Also involved in non-canonical, SMAD-independent TGF-beta signaling pathways. For</p>

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instance, TGFBR1 induces TRAF6 autoubiquitination which in turn results in MAP3K7 ubiquitination and activation to trigger apoptosis. Also regulates epithelial to mesenchymal transition through a SMAD-independent signaling pathway through PARD6A phosphorylation and activation.

<b>Form</b>	Liquid
<b>Endotoxin</b>	< 0.01 EU per µg of the protein
<b>Purity</b>	90%
<b>Stability</b>	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
<b>Storage</b>	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
<b>Storage Buffer</b>	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
<b>Shipping</b>	It is shipped out with blue ice.

## GENE INFORMATION

<b>Gene Name</b>	TGFBR1 transforming growth factor, beta receptor 1 [ Homo sapiens (human) ]
<b>Official Symbol</b>	TGFBR1
<b>Synonyms</b>	TGFBR1; transforming growth factor, beta receptor 1; transforming growth factor, beta receptor I (activin A receptor type II like kinase, 53kD); TGF-beta receptor type-1; activin A receptor type II like kinase; 53kDa; ACVRLK4; ALK 5; tbetaR-I; TGF-beta receptor type I; TGF-beta type I receptor; activin receptor-like kinase 5; transforming

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growth factor beta receptor I; serine/threonine-protein kinase receptor R4; activin A receptor type II-like kinase, 53kD; activin A receptor type II-like kinase, 53kDa; transforming growth factor-beta receptor type I; activin A receptor type II-like protein kinase of 53kD; transforming growth factor, beta receptor I (activin A receptor type II-like kinase, 53kD); AAT5; ALK5; MSSE; SKR4; ALK-5; LDS1A; LDS2A; TGFR-1;

**Gene ID** [7046](#)

**mRNA Refseq** [NM\\_001130916](#)

**Protein Refseq** [NP\\_001124388](#)

**MIM** [190181](#)

**UniProt ID** [P36897](#)

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